
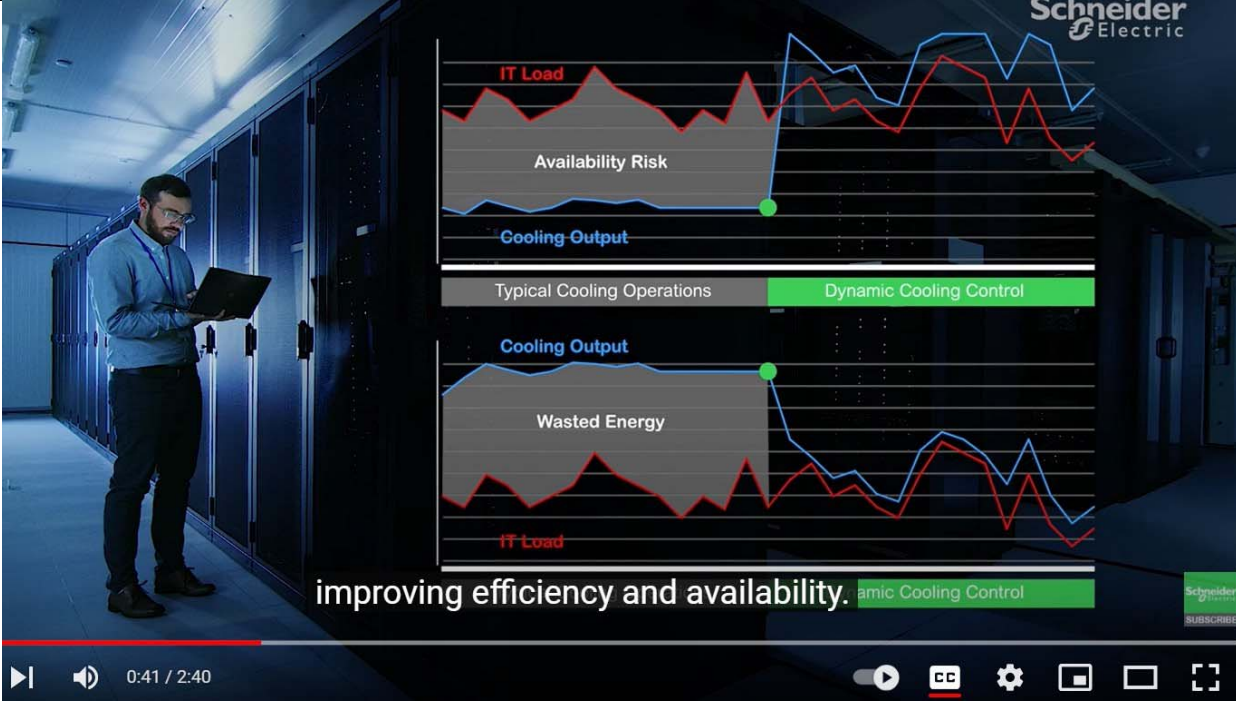
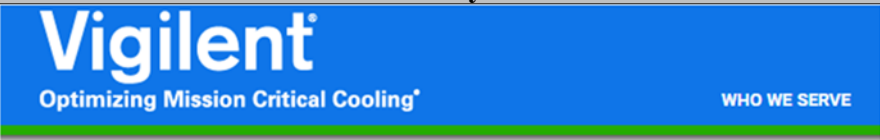


Exhibit 7

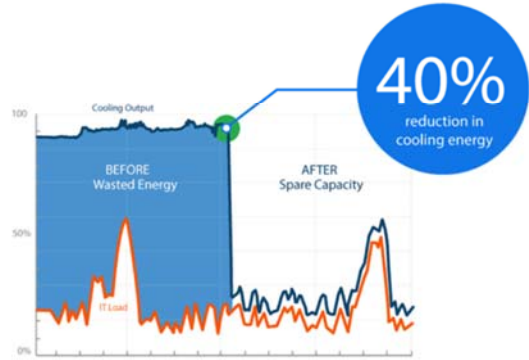
U.S. Patent No. 6,718,277 – Infringement Claim Chart

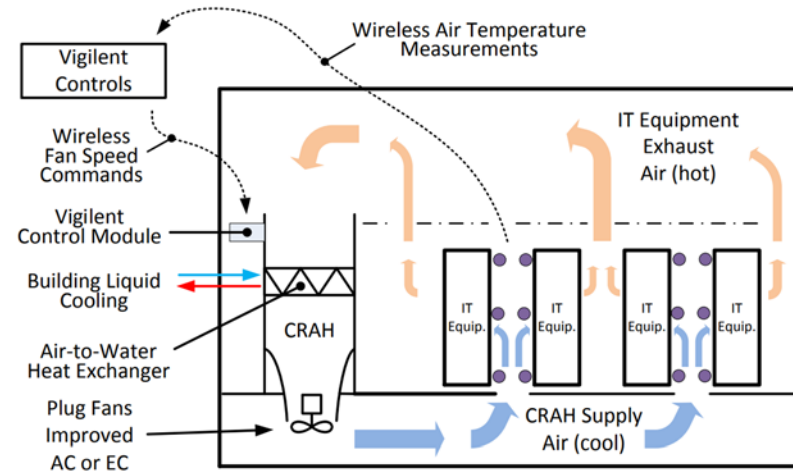
Claim 1	Exemplary Evidence of Infringement by Digital Realty
<p>[1pre] A method of controlling atmospheric conditions within a building, said method comprising the steps of:</p>	<p>Digital Realty's data centers use a method of controlling atmospheric conditions within a building.</p> <p>For example, Digital Realty uses the Schneider Electric StrucureWare Data Center Expert tool in each colocation data center to control atmospheric conditions.</p> <div data-bbox="783 609 1885 1230">  <p>not just to meet Digital Realty's renewable goals,</p> </div> <p>Sustainable Data Centers Portland</p> <p>Digital Realty 993 subscribers</p> <p>https://youtu.be/PI6ygk-_Jmk, at 3:01.</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	 <p>https://www.youtube.com/watch?v=yFMS-88wXn8, at 0:32.</p> <p>Digital Realty also uses Vigilent’s cooling optimization tools in all of its U.S. data centers to control atmospheric conditions.</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<div data-bbox="947 264 1822 402"></div> <p data-bbox="982 508 1304 553">DIGITAL REALTY</p> <p data-bbox="982 591 1801 873">“We found that upgrading fans and adding fan speed controls in our data centers allowed us to cool them more effectively and efficiently. In addition, the facility’s electrical energy usage was reduced, as was the average and peak electric power demand, resulting in a more energy efficient and sustainable data center environment.”</p> <p data-bbox="982 881 1780 919">– Jim Smith, Chief Technology Officer, Digital Realty</p> <p data-bbox="768 946 1276 979">https://www.vigilent.com/digital-realty/</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p data-bbox="810 305 1990 431">DIGITAL REALTY DECREASES DATA CENTER COOLING ENERGY USAGE BY 66%</p> <p data-bbox="810 488 1780 638">Energy Management Software and Variable Speed Fans Dramatically Reduce Carbon Emissions, PUE</p> <p data-bbox="810 695 1919 841">San Francisco, CA – December 12, 2012 – Digital Realty Trust, Inc. (NYSE: DLR), Vigilent® Corporation, and Lawrence Berkeley National Laboratory today announced the results of a joint study focused on improving the energy efficiency of a data center designed, owned and operated by Digital Realty.</p> <p data-bbox="768 881 1927 911">https://www.vigilent.com/digital-realty-decreases-data-center-cooling-energy-usage-by-66/</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p data-bbox="915 277 1770 367">VIGILENT CONTINUOUSLY MATCHES COOLING OUTPUT TO HEAT LOAD</p> <p data-bbox="915 383 1297 410">Optimized airflow eliminates hot spots.</p> <p data-bbox="915 427 1260 578">Vigilent continuously optimizes the airflow in your facility, delivering improved reliability and availability. The system automatically finds and eliminates hot spots, while its comprehensive reports and tools facilitate easier operations management.</p> <p data-bbox="915 610 1260 789">Our system delivers the right amount of cooling exactly where it's needed. This typically results in up to a 40% reduction in carbon emissions and your cooling energy bill. We achieve that with sophisticated AI-based technology that learns your environment and adapts to change.</p>  <p data-bbox="766 800 1602 831">https://www.vigilent.com/who-we-serve/by-facility/data-centers/.</p>



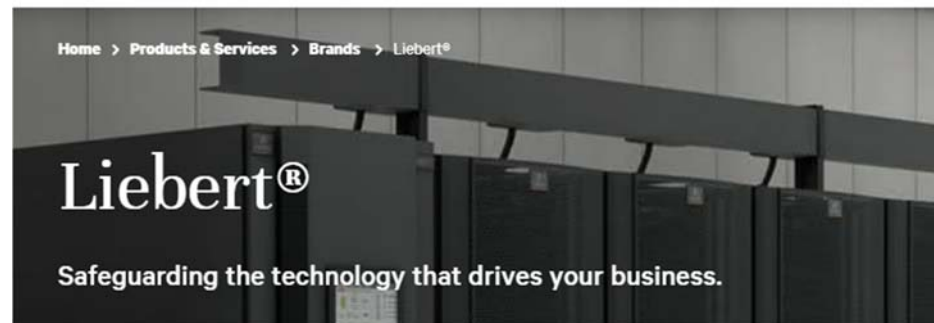
Claim 1**Exemplary Evidence of Infringement by Digital Realty****Closed Loop Wireless Control Diagram**


Source: Lawrence Berkeley National Laboratory High-Tech and Industrial Systems Group



DIGITAL REALTY
Data Center Solutions

<https://www.vigilent.com/wp-content/uploads/2014/06/DigitalRealty.pdf>


Digital Realty also uses Vertiv and Liebert cooling in its U.S. data centers to control atmospheric conditions. Liebert's cooling units are controlled, for example, by Liebert's iCOM and/or iCOM-S Intelligent Communication and Monitoring System, which uses a method for evaluating one or more components in a data center.

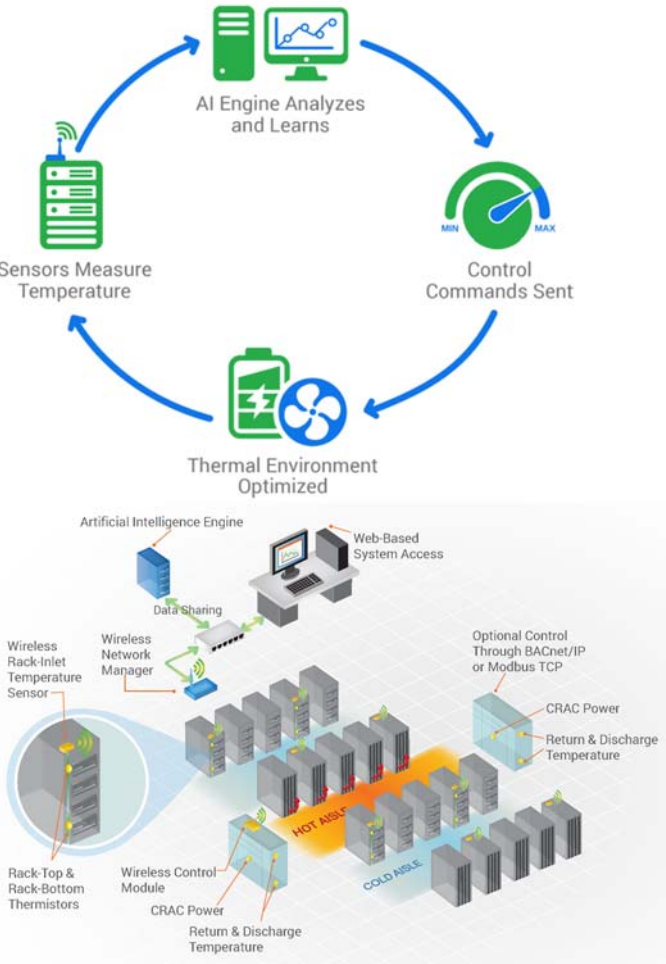
Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<div data-bbox="850 342 1608 402"> <h2>Digital Realty uses Vertiv Cooling</h2> </div> <div data-bbox="846 444 1541 716">  </div> <div data-bbox="850 735 1541 774"> <p>https://www.vertiv.com/4a10eb/globalassets/products/thermal-management/room-cooling/vertiv-and-digital-realty-case-study.pdf</p> </div> <div data-bbox="1560 448 1772 492"> <p>Partnering to prove the worth of pumped refrigerants</p> </div> <div data-bbox="1560 500 1896 680"> <p>Vertiv developed their Liebert DSE system for data centers where chilled water thermal management was either too expensive or simply too big for the space available. Digital Realty was open to exploring a new cooling solution. For nine months, Vertiv and Digital Realty worked together to explore the energy savings and operational performance benefits of a pumped refrigerant system and compared it to that of a chilled water system. The companies shared their results with the CEC and apply for a formal exception to the air- and water- only rule in order to bring a promising new cooling solution to market.</p> </div> <div data-bbox="1560 690 1896 747"> <p>Digital Realty has saved more than 1 billion gallons of water since 2013, by using Liebert DSE pumped refrigerant systems in its data centers, compared to using chilled water systems.</p> </div> <div data-bbox="953 833 1148 911">  </div> <div data-bbox="1211 878 1761 906"> <p>Products & Services Solutions Support About</p> </div> <div data-bbox="909 928 1837 1248">  </div> <div data-bbox="753 1271 1463 1310"> <p>https://www.vertiv.com/en-us/products/brands/liebert/</p> </div>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<div data-bbox="768 264 2003 630"><p data-bbox="1556 345 1770 397">Liebert[®]</p><p data-bbox="1556 451 1965 570">iCOM™ Thermal System Controls Greater Data Center Protection, Efficiency & Insight</p></div> <p data-bbox="768 654 1923 722">https://www.vertiv.com/49d637/globalassets/shared/liebert-icom-thermal-system-controls-brochure.pdf (“iCOM Brochure”).</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p>At the cooling unit level, the Liebert iCOM unit control provides the highest protection available and optimal performance.</p> <ul style="list-style-type: none"> Monitors 380 unit and component points to eliminate single points of failure Self-healing features avoid passing unsafe operating thresholds Highly intuitive, full-color, touch screen simplifies operations to save time and reduce human error Multiple, automated unit protection routines, including lead/lag, cascade, rapid restart, refrigerant protection and valve calibration  <p>At the supervisory level, the Liebert iCOM-S system control offers a revolutionary way to harmonize and optimize thermal system performance to optimize capacity across the data center, gain quick access to actionable data, and automate system diagnostics and trending.</p> <ul style="list-style-type: none"> Advanced monitoring and at-a-glance reporting on performance metrics and trends for efficiency, capacity and adverse events Up to 50% system efficiency gains 30% lower deployment costs Teamwork modes that prevent conflict between units and allow them to adapt to changes in facility and IT demand to improve efficiency and availability and reduce system wear and tear – saving more than \$10,000 per unit per year in energy costs Simple and easy to deploy — auto-configuration to detect and configure up to 4,800 sensors, eliminating the need for custom integration to building management systems and cutting sensor deployment times in half  <p>Liebert iCOM unit control and Liebert iCOM-S system control are available for new Vertiv™ data center cooling units or as retrofits.</p> <p>iCOM Brochure at p. 3.</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
<p>[1a] supplying a conditioned fluid inside said building;</p>	<p>Digital Realty supplies a conditioned fluid inside said building.</p> <p>For example, Digital Realty uses cooling units inside its data centers to supply conditioned fluid. Digital Realty uses Schneider's StruxureWare, Vigilent, and Liebert to control atmospheric conditions in the data center with its cooling units.</p> <p>Digital Realty supplies refrigerant (conditioned fluid) through the coil of its Liebert cooling units. The Liebert cooling unit receives the "return air" from the room and delivers cool conditioned "supply air" to the room (supplying conditioned fluid), by transferring heat from the air to the cooling fluid within the coil.</p> <div data-bbox="772 630 1774 1117"> </div> <p>https://www.vertiv.com/4afe7d/globalassets/products/thermal-management/room-cooling/liebert-dse-80-165kw-23-43-tons-downflow-system-design-manual.pdf, at p. 6.</p> <p>Regardless of which type of cooling units or which method of controlling atmospheric conditions are used (Schneider, Vigilent, Liebert, or others), Digital Realty supplies a conditioned fluid inside each of its data centers.</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
<p>[1b] sensing at least one atmospheric parameter in a plurality of locations inside said building;</p>	<p>Digital Realty senses at least one atmospheric parameter in a plurality of locations inside said building.</p> <p>For example, Digital Realty uses Schneider's StruxureWare to sense temperatures based on real sensor readings at various locations inside the data center.</p> <p>Working with the 3D Temperature Map</p> <p>You can review the data center temperature map in 3D as a calculated or measured map.</p> <p>The calculated map provides an estimate based on the maximum load servers would have (nameplate).</p> <p>The measured map is more accurate because it has more detailed data available. It is based on real sensor readings retrieved through discovered devices rather than estimates.</p> <p> Follow the below steps or watch this video tutorial to see how to configure the temperature map.</p> <div style="border: 1px solid green; padding: 5px; margin: 10px 0;"> <p>Room size limitation: The 3D temperature map currently does not support rooms bigger than 70x100 m.</p> </div> <p>Configuring temperature map based on real sensor readings</p> <ol style="list-style-type: none"> 1. Retrieve live values from the sensors in the data center. <ol style="list-style-type: none"> a. Configure external system integration with a system that provides real temperature measurements. See more here. b. In Planning>Device Association, discover and associate devices. See more here. 2. Position the sensors in the correct locations in the model. <ol style="list-style-type: none"> a. In the Association map overlay, map each temperature sensor to the correct physical location (devices, racks, or rooms) using drag'n'drop. For example, drag an InRow CRAC upper plenum exhaust temperature sensor to the upper position in the rear of the CRAC. b. Specify a precise location in a rack. <ol style="list-style-type: none"> i. Right-click the rack that contains the sensor and select Properties>Device Sensor. ii. Use the X, Y, Z % fields to define the location expressed as a percentage on the axes, starting with 0%, 0%, 0% in the lower left corner. 3. Calculate the 3D temperature map. <ol style="list-style-type: none"> a. Open the 3D view to preview the sensors in the correct locations. b. In Cooling plane type, select Measured plane and click Calculate. <p>https://dcimsupportattachments.ecostruxureit.com/140711358/StruxureWare%20Data%20Center%20Operation%20User's%20Guide.pdf ("StruxureWare Manual") at p. 45.</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p>Digital Realty uses Vigilent's cooling optimization tools. Vigilent senses temperatures at various locations inside the data center.</p>  <p>https://www.vigilent.com/products-and-services/dynamic-control/</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p>Wireless sensors are typically deployed every third rack to measure the inlet air temperature every minute. The sensors have two thermistors, one to capture temperature at rack bottom, the other at rack top.</p> <p>https://www.vigilent.com/technology/system-architecture/</p> <p>Digital Realty also uses Liebert iCOM. Liebert iCOM senses temperatures and humidity at locations throughout the data center.</p> <p>User Temperature Setpoint Options</p> <p>2nd Temperature Setpoint</p> <p>Alternate setpoint activated by customer input (remote alarm device). When customer input connection is 2nd Setpoint, this value becomes the active temperature setpoint.</p> <p>BMS Backup Temp Setpoint</p> <p>Selects a temperature setpoint that activates in the event of a BMS timeout. The BMS timer must be configured for this setpoint to activate. See Setting BMS Backup Setpoints on page 117.</p> <p>Optimized Aisle Enabled</p> <p>Read-only. Indicates that iCOM™ is configured for optimized-aisle operation. See Teamwork Mode 3—Optimized Aisle Operation on page 102.</p> <p>Temperature Control Sensor</p> <p>Selects sensor that controls cooling. Values are:</p> <ul style="list-style-type: none"> • Supply Sensor: Temperature control is based on maintaining the temperature of the discharge air from the cooling unit. See Supply Sensors on page 158. • Remote Sensor: Temperature control is based on the temperature reading(s) from wired remote sensor(s). See Wired Remote Sensors on page 156. • Return Sensor: Temperature control is based on maintaining the temperature of the air returning to the cooling unit.

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p>User Humidity Setpoint Options</p> <p>Dew Point Setpoint</p> <p>Desired dew point (based on actual return air temperature and humidity) by adding moisture to or removing moisture from the air.</p> <p>Humidity Control Sensor</p> <p>Selects sensor used when calculating relative humidity.</p> <p>Humidity Control Type</p> <p>Control when staging humidification operations. Valid values:</p> <ul style="list-style-type: none"> • Relative: Percent of humidification/dehumidification is determined by the difference between the humidity-sensor reading and the humidity setpoint. • Compensated: Percent of humidification/dehumidification is determined by considering the actual deviation from the temperature setpoint and adjusts the humidity setpoint accordingly. The recalculated humidity setpoint displays on the screen. • Predictive: Percent of humidification/dehumidification is determined by considering the actual deviation from the temperature setpoint and adjusts the humidity sensor reading accordingly. The adjusted humidity sensor reading displays on the screen. • Dew point: Percent of humidification/dehumidification is determined by the difference between the dew point calculated from the humidity sensor reading and the dew point setpoint. <p>https://www.vertiv.com/49b8b2/globalassets/shared/liebert-icom-user-manual_sl-31075.pdf (“iCOM Manual”) at p. 15-16.</p>
[1c] generating an empirical atmospheric map from the results of said sensing step using software for processing input from said sensing step and for producing output in the form of said empirical atmospheric map;	<p>Digital Realty an empirical atmospheric map from the results of said sensing step using software for processing input from said sensing step and for producing output in the form of said empirical atmospheric map.</p> <p>For example, Digital Realty uses Schneider’s StruxureWare to generate a 3D temperature map based on real sensor readings retrieved throughout the data center. StruxureWare uses software for processing temperature inputs from the sensing step and produces output in the form of a data center temperature map, which can be viewed as a calculated or measured map.</p>

Claim 1**Exemplary Evidence of Infringement by Digital Realty****Working with the 3D Temperature Map**

You can review the data center temperature map in 3D as a calculated or measured map.

The calculated map provides an estimate based on the maximum load servers would have (nameplate).

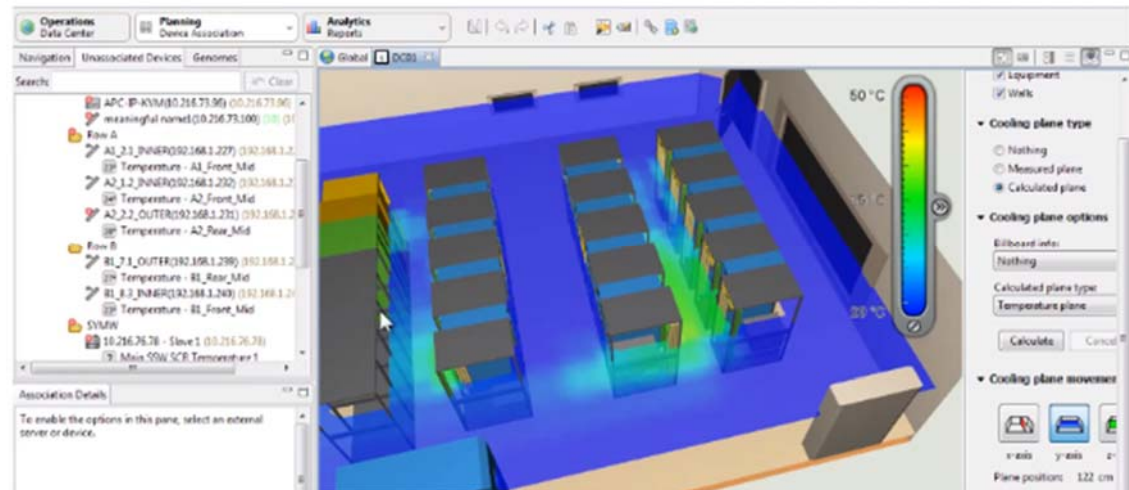
The measured map is more accurate because it has more detailed data available. It is based on real sensor readings retrieved through discovered devices rather than estimates.



Follow the below steps or watch this [video tutorial](#) to see how to configure the temperature map.

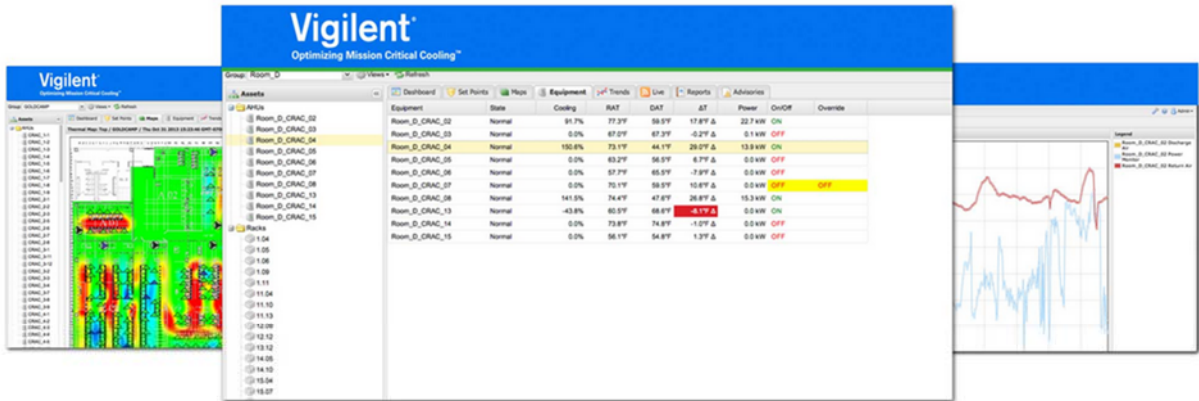
Room size limitation: The 3D temperature map currently does not support rooms bigger than 70x100 m.

StruxureWare Manual at p. 45.



StruxureWare Manual at p. 46.

Digital Realty also uses Vigilant to generate an empirical atmospheric map from the results of the sensing step. Vigilant also uses software for processing temperature inputs from the sensing step and produces output in the form of a data center temperature map.

Claim 1**Exemplary Evidence of Infringement by Digital Realty****EVERYDAY TOOLS**

With our intuitive, at-a-glance system interface, checking the current status of your facility is always at your fingertips.

CHECK TEMPERATURES

With a few clicks, you can quickly dive down from a broad facility view into the real-time temperature data of one specific rack sensor.

EASY TRENDING

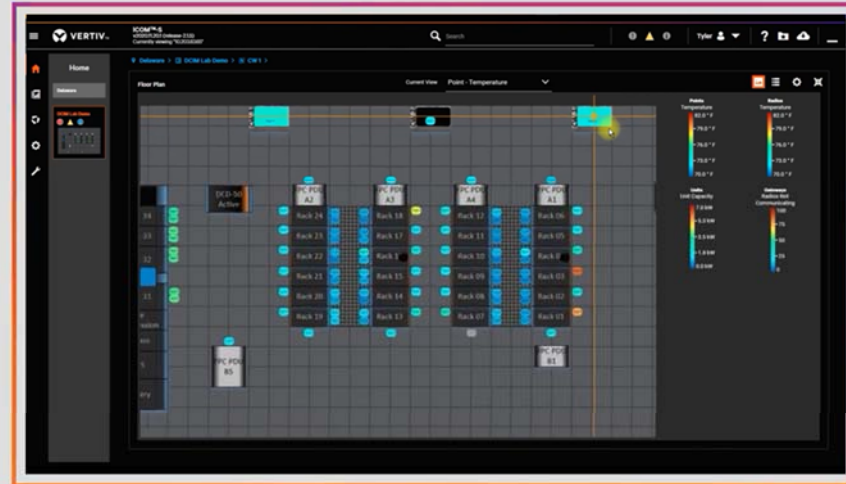
Customize data to quickly surface the information you need.

<https://www.vigilent.com/who-we-serve/by-facility/data-centers/>

Digital Realty also uses Liebert iCOM. Liebert iCOM generates an empirical atmospheric map from the results of sensing temperature at individual racks. Liebert iCOM uses software for processing temperature inputs from the sensing step and produces output in the form of a data center temperature map.

Claim 1


Exemplary Evidence of Infringement by Digital Realty



Integrate your Device and BMS Data



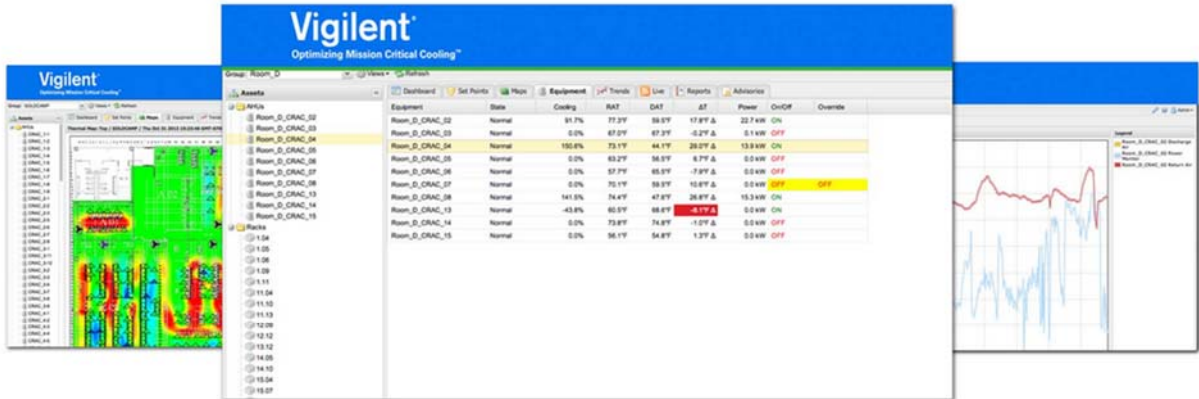
<https://www.youtube.com/watch?v=pJutGw7rrF0> at 0:43.

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p>5.1 Preparing for U2U Group Set Up</p> <p>Cooling units in the network will be assigned to groups, which affects how units function in teamwork, standby, rotation, and cascading operations. Especially in large rooms, it is important to consider several factors before setting up groups to balance cooling unit operation with room conditions.</p> <p>NOTE: For ease of set-up and use, we recommend using only one group unless you have multiple rooms, differing software versions, or different types of cooling units.</p> <ol style="list-style-type: none"> 1. Make a map of the room and indicate the location of all heat-generating devices and cooling units to plan for proper heat load management and cooling-air distribution. 2. Note the type of units by product/model, size, etc. 3. Determine the number of units to network together to ensure proper air flow and environmental control, up to 32 units. 4. Determine number of standby units. <p>iCOM Manual at p. 94.</p>
[1d] comparing said empirical atmospheric map to a template atmospheric map; and	<p>Digital Realty compares said empirical atmospheric map to a template atmospheric map.</p> <p>For example, Digital Realty uses Schneider’s StruxureWare to generate a 3D temperature map based on real sensor readings retrieved throughout the data center. The data center temperature map can be viewed as a calculated or measured map. The measured map can be compared against a template map.</p> <p>Working with the 3D Temperature Map</p> <p>You can review the data center temperature map in 3D as a calculated or measured map.</p> <p>The calculated map provides an estimate based on the maximum load servers would have (nameplate).</p> <p>The measured map is more accurate because it has more detailed data available. It is based on real sensor readings retrieved through discovered devices rather than estimates.</p> <p> Follow the below steps or watch this video tutorial to see how to configure the temperature map.</p> <div style="border: 1px solid green; padding: 5px; margin-top: 10px;"> <p>Room size limitation: The 3D temperature map currently does not support rooms bigger than 70x100 m.</p> </div>

Claim 1**Exemplary Evidence of Infringement by Digital Realty**

StruxureWare Manual at p. 45.

Digital Realty also uses Vigilent to compare said empirical atmospheric map to a template atmospheric map.

**EVERYDAY TOOLS**

With our intuitive, at-a-glance system interface, checking the current status of your facility is always at your fingertips.

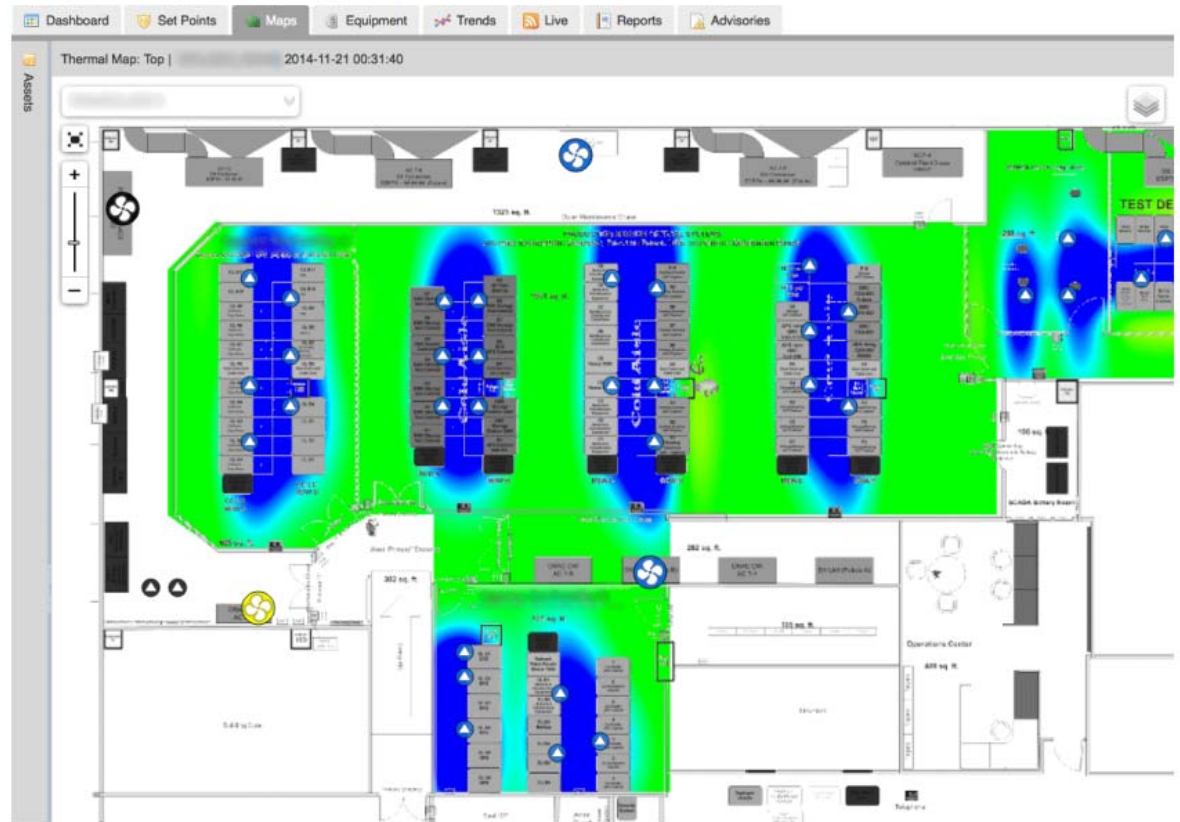
CHECK TEMPERATURES

With a few clicks, you can quickly dive down from a broad facility view into the real-time temperature data of one specific rack sensor.

EASY TRENDING

Customize data to quickly surface the information you need.

<https://www.vigilent.com/who-we-serve/by-facility/data-centers/>

Claim 1**Exemplary Evidence of Infringement by Digital Realty**

The thermal map legend gives you a quick visual assessment of your AHU performance.

<https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF>

Digital Realty also uses Liebert iCOM. Liebert iCOM compares an empirical atmospheric map to a template atmospheric map, for instance by comparing current temperatures to template setpoints.

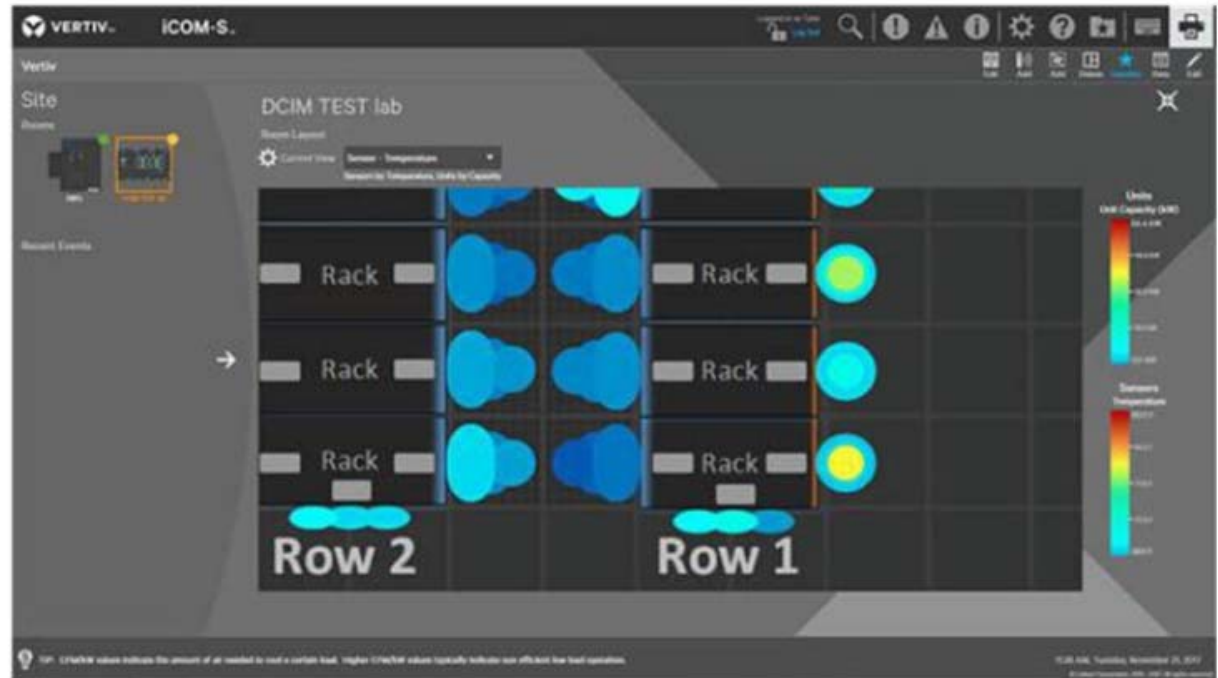
Claim 1**Exemplary Evidence of Infringement by Digital Realty****2.4 Viewing Sensor Data**

The Sensor Data panel lists the standard and optional sensors monitored by iCOM™ and the current reading of each sensor.


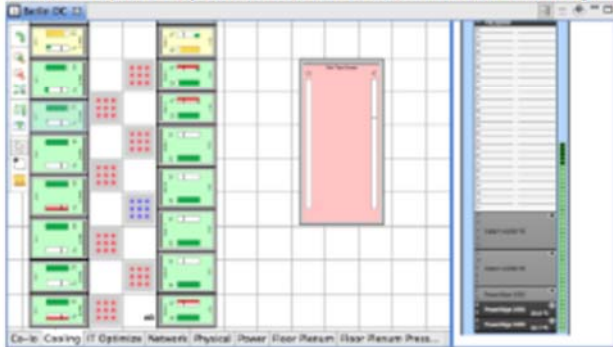
- Touch , then  > *Sensor Data*. The SENSOR DATA panel opens.

A secondary panel displays the DAILY SENSOR READING SUMMARY, which shows temperature, humidity and dew-point readings for the cooling unit.

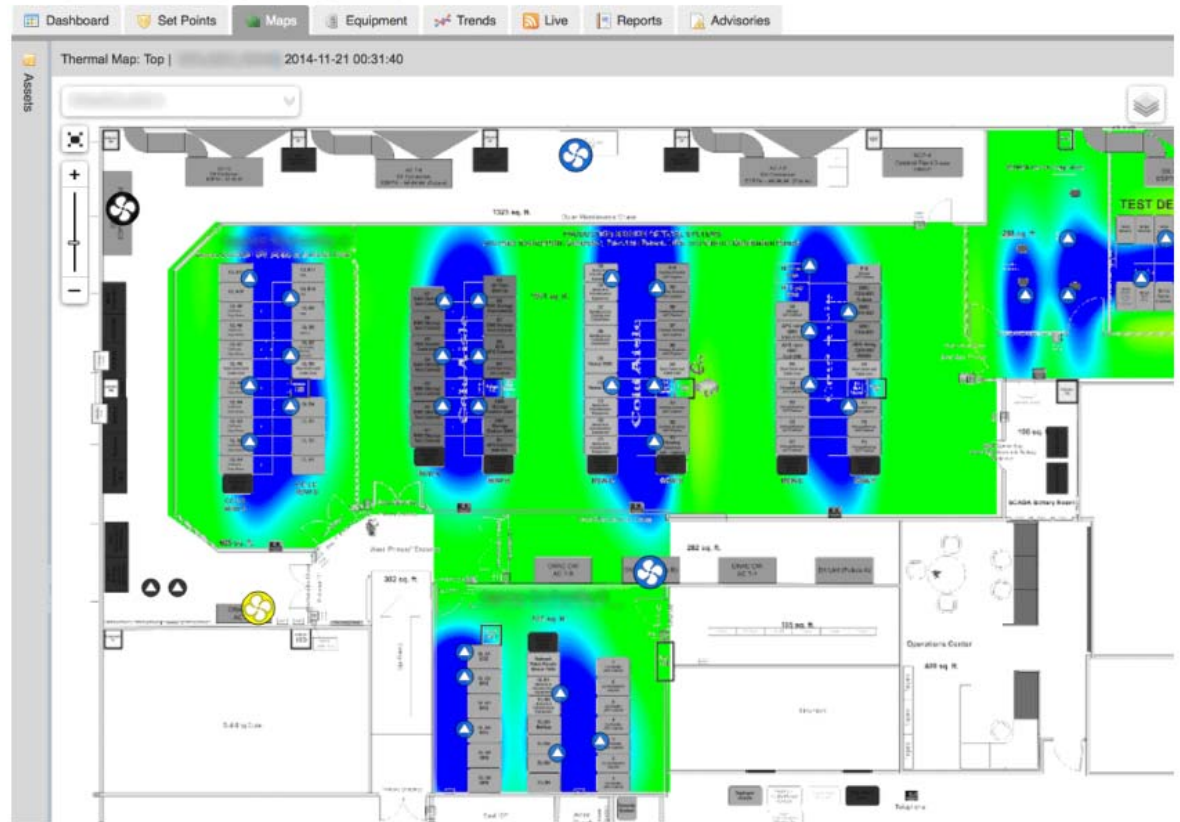
iCOM Manual at p. 20.



<https://www.dksh.com/global-en/products/iot/vertiv-thermal-control-and-monitoring>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
<p>[1e] identifying pattern differentials between said empirical and template atmospheric maps.</p>	<p>Digital Realty identifies pattern differentials between said empirical and template atmospheric maps.</p> <p>For example, Digital Realty uses Schneider's StruxureWare to generate a 3D temperature map based on real sensor readings retrieved throughout the data center. StruxureWare has a capture index overlays that give you a fail/pass indication of the effectiveness of the active cooling configuration, which shows pattern differentials between the empirical and template atmospheric maps.</p> <p>The graphical floor plan of the configured data center layout includes overlays showing capture index (CI), plenum pressure, plenum velocities, and 3D rendering of the temperature map, including airflow, temperature thresholds, load. These overlays give you a fail/pass indication of the effectiveness of the active cooling configuration. As the design takes place, you get a qualified estimation of the effect of changes in supply temperature, airflow, and number of cooling units and room-based cooling parameters.</p> <p> Watch this video tutorial to learn how to configure different types of cooling.</p> <h3>Capture index</h3> <p>The Cooling overlay of the data center floor layout shows a color-coded overview of the Capture Index. You can use this view to get an overview of the reasons why the tile airflow may not be the same across the room.</p> <p>Each rack in a well-formed hot aisle / cold aisle layout shows a color-coded capture index percentage. The CI value identifies inlet air which is supplied by what fraction of the equipment's exhaust airflow is captured by the InRow® cooling units included in that row pair or by the CRAC or CRACs in the room through the perforated tiles.</p> 



Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p>StruxureWare Manual at p. 42.</p> <p>Digital Realty also uses Vigilent to identify pattern differential between said empirical and template atmospheric map, for example by comparing current and historic data.</p> <p>AT A GLANCE</p> <p>Cooling becomes a managed resource that reacts to real-time data, which reduces the chances of downtime.</p> <p>Automated hot spot reduction The system can automatically removes 95% (or more) of hot spots and diagnoses how to treat the remaining problems through facility adjustments.</p> <p>Instant results From the moment the system goes live, the energy savings and carbon emissions reductions are immediate.</p> <p>Cost savings The system finds the perfect balance between delivering the right amount of cooling and the lowest possible energy expenditure.</p> <p>Constantly adapting The AI engine constantly changes cooling when it detects new equipment and varying IT loads.</p> <p>Analytics Our system turns mountains of current and historic data into focused, actionable information.</p> <p>Risk mitigation System failsafes help avoid costly outages.</p> <p>https://www.vigilent.com/who-we-serve/by-facility/data-centers/</p>

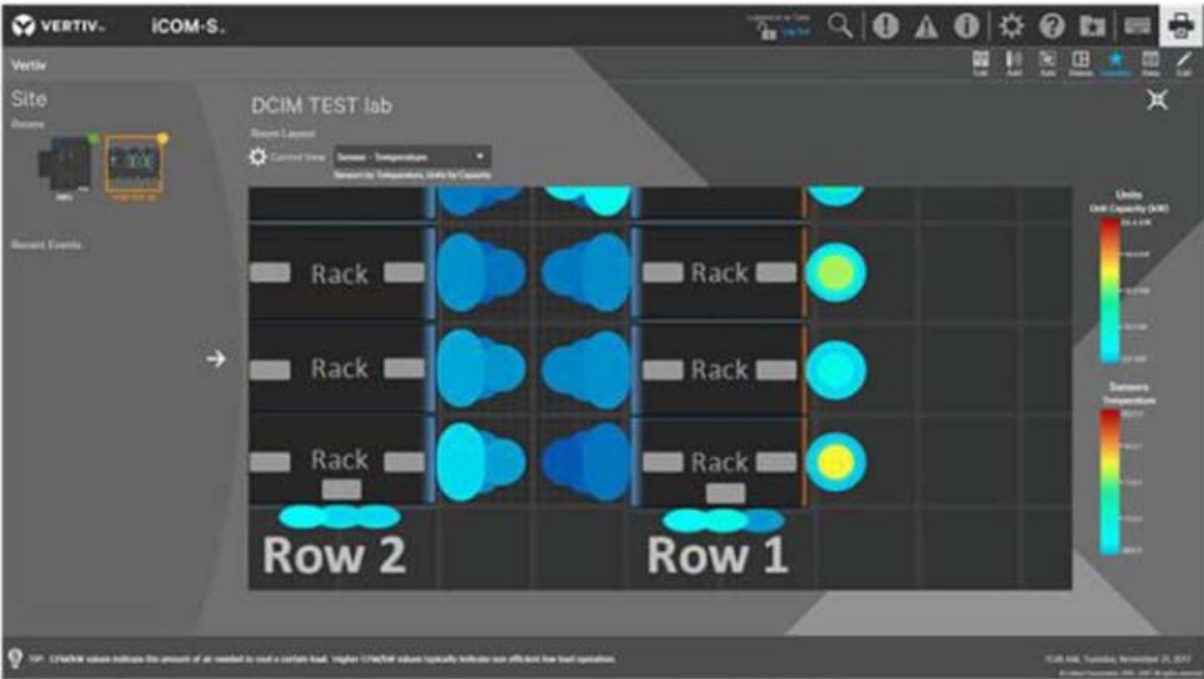
Claim 1**Exemplary Evidence of Infringement by Digital Realty**

The thermal map legend gives you a quick visual assessment of your AHU performance.

<https://fccid.io/ANATEL/01612-15-08292/MANUAL/16006226-67DD-49FB-8873-2E15C3330211/PDF>

Digital Realty also uses Liebert iCOM. Liebert iCOM identifies pattern differentials between the empirical and template maps, for example, by identifying when sensors are reporting conditions that exceed template conditions.

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	<p>4.2 Enabling Events and Editing Event Settings</p> <p>In the ALARMS & EVENTS panel, events are grouped into categories for easier management, for example, the factory set remote sensor alarms and humidification/dehumidification events. In some cases, touch the group heading provides edit options for the entire group, like thresholds, delays and enable/disable. Each event includes settings specific for that event and the notification option where event type and alarm notifications are selected (See Selecting Event Type and Setting Alarm/Warning Notification on the facing page).</p> <ol style="list-style-type: none"> 1. Touch , then  > <i>Alarm/Event Setup</i>. The ALARMS & EVENTS panel opens. 2. Scroll or search to find the event, touch the set's heading to display the properties and values for the entire set in the EDIT panel. – or – Touch an individual alarm or event to display its specific values in the EDIT panel. <p>iCOM Manual at p. 80.</p>

Claim 1	Exemplary Evidence of Infringement by Digital Realty
	 <p>https://www.dksh.com/global-en/products/iot/vertiv-thermal-control-and-monitoring</p>